What is claimed is:

1. An alkoxylated compound having the following formula I:

$$R((AO)_n(H)_m H_p \qquad (I)$$

wherein each AO group is independently an alkyleneoxy group selected from ethyleneoxy, 1,2-propyleneoxy, 1,2-butyleneoxy, and substituted or unsubstituted styryleneoxy groups; n is an integer of from 2 to 100; m is an integer of from 1 to the total number of –OH plus –NH hydrogens in the R group prior to alkoxylation; the sum of m plus p equals the number of –OH plus –NH hydrogens in the R group prior to alkoxylation; and the R group is a group selected from the following:

$N(CH_2CH_2O)_3$ (II);

$R^1N(CH_2CH_2O)_2$ where R^1 is a C_1-C_{24} alkyl, aryl, or aralkyl group (III);

$R^1N^+(CH_2CH_2O)_3Y^-$ where R^1 has the above meaning and (IV)

Y^- is an anion;

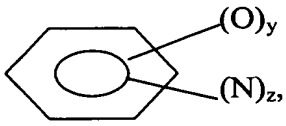
NCH_2CH_2N (V);

$NCH_2CH_2NCH_2CH_2N$ (VI);

$CH_3C(CH_2O)_3$ (VII);

$CH_3CH_2C(CH_2O)_3$ (VIII);

$C(CH_2O)_4$ (IX); and



(X)

, where y is an integer of from 0 to 3, z is an integer of from 0 to 3, provided that the sum of y plus z is 2 or 3.

2. The alkoxylated compound of claim 1 wherein the compound is an alkoxylated triethanolamine.

3. The alkoxylated compound of claim 1 wherein the compound of formula I contains from 2 to about 50 alkyleneoxy groups.

4. The alkoxylated compound of claim 1 wherein the compound of formula I contains from 2 to about 30 alkyleneoxy groups.

5. The alkoxylated compound of claim 2 wherein the alkoxylated triethanolamine contains from 6 to 15 ethyleneoxy groups and from 6 to 15 propyleneoxy groups.

6. The alkoxylated triethanolamine of claim 2 which is selected from the group consisting of the following:

POP(6) POE(9) triethanolamine
POP(9) POE(9) triethanolamine
POP(12) POE(9) triethanolamine
POP(15) POE(9) triethanolamine

POP(6) POE(15) triethanolamine
POP(9) POE(15) triethanolamine
POP(12) POE(15) triethanolamine
POP(15) POE(15) triethanolamine

POP(3) POE(6) triethanolamine
POP(6) POE(6) triethanolamine
POP(9) POE (6) triethanolamine
POP(12) POE (6) triethanolamine

7. The alkoxylated compound of claim 1 in which the R group has the formula III.

8. The alkoxylated compound of claim 7 wherein the R^1 group contains from 1 to 18 carbon atoms and the compound contains from 2 to 20 ethyleneoxy groups, and from 2 to 15 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

9. The alkoxylated compound of claim 1 in which the R group has the formula IV.

10. The alkoxylated compound of claim 9 wherein the R^1 group contains from 1 to 20 carbon atoms and the compound contains from 2 to 40 ethyleneoxy groups, and from 2 to 20 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

11. The alkoxylated compound of claim 10 wherein the compound contains from 3 to 25 ethyleneoxy groups, and from 2 to 16 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

12. The alkoxylated compound of claim 1 wherein the R group has the formula V.

13. The alkoxylated compound of claim 12 wherein the compound contains from 2 to 40 ethyleneoxy groups, and from 2 to 20 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

14. The alkoxylated compound of claim 13 wherein the compound contains from 4 to 20 ethyleneoxy groups, and from 4 to 16 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

15. The alkoxylated compound of claim 1 wherein the R group has the formula VI.

16. The alkoxylated compound of claim 15 wherein the compound contains from 2 to 60 ethyleneoxy groups, and from 3 to 40 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

17. The alkoxylated compound of claim 16 wherein the compound contains from 4 to 30 ethyleneoxy groups, and from 3 to 20 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

18. The alkoxylated compound of claim 1 wherein the R group has the formula VII or VIII.

19. The alkoxylated compound of claim 18 wherein the compound contains from 3 to 60 ethyleneoxy groups, and from 3 to 40 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

20. The alkoxylated compound of claim 1 wherein the R group has the formula IX.

21. The alkoxylated compound of claim 20 wherein the compound contains from 4 to 60 ethyleneoxy groups, and from 2 to 40 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

22. The alkoxylated compound of claim 1 wherein the R group has the formula X.

23. The alkoxylated compound of claim 22 wherein the compound contains from 4 to 60 ethyleneoxy groups, and from 4 to 40 propyleneoxy, butyleneoxy, and/or styryleneoxy groups.

24. The alkoxylated compound of claim 1 wherein the compound has the formula IA below:

$$R((EO)_w(PO)_x(BO)_y(SO)_zH)_m \qquad (IA)$$

in which EO = ethyleneoxy; PO = propylenenoxy; BO = butyleneoxy; SO = substituted or unsubstituted styryleneoxy; w = 2 to 60; x, y, and z each independently = 0 to 40; provided that the total of w, x, y, and z does not exceed 100; and further provided that x, y, and z are not all 0.

25. In an aqueous electrowinning, electroplating, or electroforming electrolyte composition containing at least one metal or metalloid, the improvement wherein the composition contains a mist-suppressing quantity of at least one alkoxylated compound of claim 1.

26. The process of claim 25 wherein said mist-suppressing quantity is in the range of from about 2 to about 100 ppm.

27. The process of claim 26 wherein said quantity is in the range of from about 5 to about 25 ppm.

28. In a solvent extraction process for extracting metals from metal ores using an aqueous leach solution, an extraction reagent dissolved in a water-immiscible organic solvent, an electrolyte solution, and an electrowinning step, the improvement wherein the electrolyte solution contains a mist-suppressing quantity of at least one alkoxylated compound of claim 1.

29. The process of claim 28 wherein said mist-suppressing quantity is in the range of from about 2 to about 100 ppm.

30. The process of claim 29 wherein said quantity is in the range of from about 5 to about 25 ppm.

31. In the electroplating of metals on a substrate from an acidic aqueous electrolyte solution containing metal ions, the improvement wherein the electrolyte solution contains a mist-suppressing quantity of at least one alkoxylated compound of claim 1.

32. In the electrowinning of metals from an acidic aqueous electrolyte solution containing metal ions, the improvement wherein the electrolyte solution contains a mist-suppressing quantity of at least one alkoxylated compound of claim 1.

33. An aqueous electrolyte solution containing:

A) a metal or metalloid in ionic and/or dispersed metallic form; and

B) at least one alkoxylated compound of claim 1.

34. The aqueous electrolyte solution of claim 33 wherein component A) comprises at least one metal selected from the group consisting of copper, cadmium, chromium, cobalt, gold, indium, iron, lead, nickel, a platinum group metal, silver, tin, and zinc.

35. The aqueous electrolyte solution of claim 34 wherein the solution contains from about 2 to about 100 ppm of component B).

36. An aqueous electrolyte solution containing :

A) a metal or metalloid in ionic or dispersed metallic form; and

B) at least one alkoxylated compound of claim 24.

37. A method of suppressing mist in an electrowinning, electroplating, or electroforming process using a metal-containing electrolyte solution comprising adding to the electrolyte solution a mist-suppressing quantity of at least one alkoxylated compound of claim 1.

38. The method of claim 37 wherein the metal in the electrolyte solution is copper ion.

39. The method of claim 37 wherein the at least one alkoxylated compound of claim 1 is an alkoxylated triethanolamine.

40. A method for extracting a metal from a metal-containing ore comprising the steps of

I) contacting the metal-containing ore with an aqueous leach solution to extract metal values therefrom;

II) contacting the aqueous leach solution containing metal values with a water-immiscible organic solvent containing an extraction reagent to obtain a metal-containing organic solvent solution;

III) separating the metal-containing organic solvent solution from the aqueous leach solution;

IV) contacting the metal-containing organic solvent solution with an aqueous acid strip solution;

V) adding to the resulting metal-containing aqueous acid strip solution a mist-supressing quantity of at least one alkoxylated compound of claim 1; and

VI) electrowinning the metal from the aqueous acid strip solution obtained in step V).

41. The method of claim 4 wherein in step II) the extraction reagent is at least one oxime extractant.

42. The method of claim 40 wherein in step V) the mist-suppressing quantity is in the range of from about 2 to about 100ppm.

43. The method of claim 42 wherein said quantity is in the range of from about 2 to about 30 ppm.

44. The method of claim 42 wherein said quantity is in the range of from about 5 to about 25 ppm.

45. The method of claim 40 wherein the at least one alkoxylated compound of claim 1 is an alkoxylated triethanolamine.

46. A method for extracting copper from a copper-containing ore comprising the steps of

I) forming a copper-pregnant aqueous acid leach solution by contacting a copper-containing ore with an aqueous strong acid to produce a copper-pregnant acid leach solution;

II) contacting the resulting copper-pregnant acid leach solution with an oxime extractant in a water-immiscible organic solvent;

III) separating the resulting copper-pregnant water-immiscible organic solvent from the resulting copper-depleted acid leach solution;

IV) stripping the copper from the copper-pregnant water-immiscible organic solvent with an aqueous acidic strip solution;

V) adding to the resulting copper-pregnant aqueous strip solution a mist-suppressing quantity of at least one alkoxylated compound of claim 1; and

VI) electrowinning the copper from the copper-pregnant aqueous strip solution obtained in step V).

47. The method of claim 46 wherein in step V) the mist-suppressing quantity is in range of from about 2 to about 100 ppm.

48. The method of claim 47 wherein said quantity is in the range of from about 2 to about 30 ppm.

49. The method of claim 47 wherein said quantity is in the range of from about 5 to about 25 ppm.

50. The method of claim 45 wherein the at least one alkoxylated compound of claim 1 is an alkoxylated triethanolamine.

51. The method of claim 46 wherein in step I) the copper-pregnant acid leach solution is a sulfuric acid leach solution having a pH in the range of from about 0.9 to about 2.0.